

CLAIMS

1. A sales support system for supporting sales of sales objects, which includes products or services, comprising:

5 a terminal system 51 including input means for inputting information on a sales object provided from a customer and display means for displaying information on the sales object to the customer, the information on the sales object from the customer including purchase order of the sales object; and

10 a information management system 53 connected to said terminal systems to communicate therewith, the information management system receiving purchase order of the sales object from the terminal system, determining a facility that can provide the ordered sales object, and transmitting to the product facility instructions for providing the product.

15 2. The system of claim 1, wherein the sales object includes a service, and the information management system includes a service person determining means for selecting a facility or service person which or who can provide a customer with a service within a shortest period of time.

3. A support system for sales of products, comprising:

20 a terminal system 51 including input means for inputting information on a product provided from the customer and display means for displaying information on the product to the customer, the information on the product from the customers including purchase order of the product; and

25 a information management system 53 connected to said terminal systems and a product facility that can provide various products including the ordered product, to communicate therewith, the information management system receiving purchase order of the product from the terminal system, selecting a facility that can provide the ordered product, and transmitting to the product facility instructions for providing the product.

4. The system of claim 3, wherein the terminal system includes memory means 83 for storing product data on standard and patterned special type products, and a first quotation means 87 for calculating quotations for the standard products and patterned special type products.

5 5. The system of claim 4, wherein the quotation includes the price and date of delivery.

6. The system of claim 5, wherein the quotation includes the processing tolerance of the product.

10 7. The system of claim 3, wherein the input means 81 is adapted to input a quotation request on the product, and the display means 83 is adapted to display the quotation on the product to the customer.

8. The system of claim 3, wherein the information management system 53 includes design management system 57 for managing design data on at least the patterned special type product.

15 9. The system of claim 8, wherein the information management system 53 includes a second quotation calculation means 89 for calculating quotations for non-patterned special type products which do not belong to the standard products and patterned special type products.

20 10. The system of claim 9, wherein the second quotation calculation means 89 calculates the price based on a structure figure of the non-patterned special type products.

11. The system of claim 8, wherein the design management system 53 includes a similar product data storing means 90 for storing data of similar product of the non-patterned special type products.

25 12. The system of claim 8, wherein the design management system 53 includes a design support system 91 for supporting designing of the non-patterned special type products.

13. The system of claim 12, wherein the design support system 91 support the

designing of a product belonging to the non-patterned special type products based on data of similar products.

14. The system of claim 12, wherein the design management system includes a processing tolerance calculation means 92 for calculating processing tolerance of the non-patterned special type products.

15. The system of claim 3, wherein the information management system 53 includes a product facility management system 59a, b for selecting most suitable product storing facility or most suitable product manufacturing facility.

16. The system of claim 15, wherein the information management system 53 includes a product facility memory means 93b for memorizing types and amount of products stored in each storing facility as stock.

17. The system of claim 16, wherein the information management system 53 includes memory means for memorizing types of product manufacturable in each factory and period of time necessary for manufacturing the products.

18. The system of claim 15, wherein the information management system 53 includes a product facility determining means 95 for selecting a product facility that can manufacture an ordered product within a date of delivery appointed by a customer.

19. The system of claim 18, wherein the product facility determining means determines a product facility that is provided with material for manufacturing the product, as the product facility.

20. The system of claim 19, wherein the product facility determining means selects a product facility that can manufacture the product with least cost.

21. The system of claim 15, wherein the information management system 53 includes an alarm signal generating means 97 that supervise product manufacturing process in manufacturing facility acting as a product facility and generate an alarm signal when it is expected that a delay will occur against the appointed date of delivery.

22. The system of claim 15, wherein the information management system 53

includes stock supervision means 100 that supervise the amount of stock of the product, and send to the product facility instructions for replenishing the amount of the stock when it is judged that the amount of the stock is running short in view of the shipping result in the past.

5 23. The system of claim 15, wherein the information management system includes a date-of-delivery calculation means for calculating a date of delivery of the product by taking account of a manufacturing period in a manufacturing facility.

10 24. The system of claim 3, wherein the information management system further includes transportation agency supervision means 61 for selecting a transportation agency that transports the product from the product facility to a customer.

 25. The system of claim 3, wherein the transportation agency supervision means 61 includes transportation agency data memory means 101 for memorizing various data no a plurality of transportation agencies.

15 26. The system of claim 24, wherein the transportation agency supervision means 61 includes a transportation agency determining means 103 for selecting from a plurality of transportation agencies a transportation agency that meets a transportation condition.

20 27. The system of claim 26, wherein the transportation condition is determined on the basis of at least one of a weight of the product, a distance between the transportation agency and the customer and shipping time.

 28. The system of claim 24, wherein the transportation agency supervision system 61 includes a delivery time calculation means 105 that calculates a delivery time of the product by taking account of a transportation period taken by the transportation agency.

25 29. A visit support system that supports visits of business managers to customers, comprising:

 memory means 75 which stores product possession information on products which each customer possess and visit records to each customer,

means for calculating weight coefficients 77 for each customer based on said product possession information and visit records; and

a customer visit selection means 79 for selecting customers to be visited based on the weight coefficients.

5 30. The system of claim 29, wherein the information on the product memorized in the memory means includes types of product and use records of the product.

31. The system of claim 29, wherein the memory means memorize past sales result of the customer.

10 32. The system of claim 29, wherein the weight coefficient calculation means calculate different weight coefficient in accordance with a type of business unit when there are a plurality of types of business unit.

33. The system of claim 29, wherein the visit support system includes a map generating means 80 that display a location on a map of a customer to be visited.

15 34. A sales support systems for supporting a design entity, a manufacturing entity or a sales entity of commodity to provide or procure its commodity or service, wherein the support system is structured so that a server is furnished for the entities, to which an information terminal which has a client function carried by the personnel in charge of visiting customers may communicate, and by use of this information terminal, he may realize his business of introducing products, quotations, receipt of orders
20 and consultation at the place of visit.

35. The sales support system for commodity or service of claim 34, wherein the server manages customer database and carries out focusing of target customers and management of visit schedule.

25 36. The sales support system for commodity or service of claim 34, wherein the introduction of products includes image representation of electric catalogue and introduction of a cause of a malfunction of a commodity and measure to avoid the malfunction.

37. The sales support system for commodity or service of claim 34, wherein when a request for quotation is transmitted from the information terminal to the server, a result of quotation is transmitted from the server back to the information terminal.

38. The sales support system for commodity or service of claim 34, wherein the receipt of order is transmitted from the information terminal to the server.

39. A sales support systems for supporting a design entity, a manufacturing entity or a sales entity of commodity to provide or procure its commodity or service,

wherein the system is organized so that by placing a server at the management division of the entities and by placing a client at the outdoor division which client may communicate with the server, various work requests and answers between the management division and outdoor division may be realized immediately by using the communication function between the server and client.

40. A sales support systems for supporting a design entity, a manufacturing entity or a sales entity of commodity to provide or procure its commodity or service,

wherein the system is organized so that by placing a server at the entity and by placing a client at a customer which client may communicate with the server, various work requests and answers between the entity and the customer may be realized immediately by using the communication function between the server and client.

41. The sales support system for commodity or service of claim 34, wherein the commodity is a machine tool and expendable supplies thereof.

42. The sales support system for commodity or service of claim 34, 36, 39, 40, or 41, wherein the commodity is a tool or a part of metal processing machine.

43. The sales support system for commodity or service of claim 34, wherein the commodity is blade of cutting machine.

44. A quotation and design system, which may be connected to a portable terminal, for estimating and design commodities including standardized standard custom made articles and non-standardized custom made articles, comprising:

quotation request receiving means for receiving requests for quotations for the patterned custom made articles or the non-patterned custom made articles from the portable terminal;

automatic quotation means to perform quotations for the date of delivery or price
5 automatically based on information attached to the request for quotations of standardized form custom made article received;

an analogous article search means to search and extract information on analogous articles analogous to the non- standardized form custom made articles from the design data base, based on the received information attached to the request of quotation for
10 non-standardized form custom made articles,

a quotation input means to input a date of delivery or price of the non-standardized form custom made articles estimated based on information on the design and manufacturing of the analogous article;

quotation reply means to transmit as a reply to quotations to the portable terminal
15 quotations inputted from the automatic quotation means and the quotation input means.

45. The quotation and design system of claim 44, further comprising standard product search means that analyze a content of quotation request, and search a standard product file based on the result of the analysis, and when a standard product is located corresponding to the quotation request, regard existence information of the standard
20 product and a quotation of the standard product as a quotation response responding to the request for quotation on the patterned custom made articles or the non-patterned custom made articles.

46. The quotation and design system of claim 44, further comprising patterned custom made product search means that analyze a content of quotation request, and search
25 a patterned custom made product file based on the result of the analysis, and when a patterned custom made product is located corresponding to the quotation request, output the patterned custom made product to the automatic quotation means.

47. The quotation and design system of claim 44, wherein for the patterned custom made articles, a plurality of shape patterns are stored with identification characters in advance, and dimensions of each section of each shape pattern are parameterized, and a shape of a patterned custom made article is uniquely specified by specifying value of each parameter.

48. The quotation and design system of claim 47, wherein when a receipt of order corresponding to the quotation of the patterned custom made articles is settled, the identification character and the value of the parameters of the shape pattern of the patterned custom made articles are transferred from the quotation file to design database, and parametric design or parametric figure drawing is carried out referring to the data of the design database.

49. The quotation and design system of claim 48, wherein design data of the patterned custom made articles that has been designed is automatically subjected to drawing check that takes account of material and use condition.

50. The quotation and design system of claim 48, wherein the design data of the patterned custom made articles and non-patterned custom made articles that has been checked are registered in the design database and if necessary, provided to manufacturing division.

51. An article manufacturing facility automatic decision method to determine, based on a manufacturing order data comprising the customer's demand for the date of delivery and the ordered number of articles and manufacturing information of the commodity, the most adequate factory where the product may be made at the lowest cost and within least, comprising the steps of:

determining a manufacturing factory decision index of each factory that includes the information on the status of the capacity, number of each tool, stored material the factory presently possess and the factory load percentage based on the operation rate per designated time of the machine tools;

detecting factories that can deliver the commodity within the date of delivery;
reading the manufacturing order data and judging from the manufacturing factory decision
index whether it is possible for the factory detected to manufacture the product indicated in
the manufacturing order data; and

- 5 if it is judged that the factory detected can manufacture the manufacturing order
data, determining the detected factory as the most suitable factory and transmitting the
manufacturing order data to the most suitable factory.

52. The article manufacturing facility automatic decision method of claim 51,
comprising the steps of:

- 10 generating process schedule of each machine tools of each manufacturing facility,
each process schedule corresponding to a name of the manufacturing facility and a name of
machine tool and time axis;

calculating processing time of each machine tool to obtain the article of the
manufacturing order;

- 15 selecting a process schedule of the most suitable manufacturing facility, and
assigning manufacturing order data corresponding to the processing time to each machine
tool of the process schedule, and transmitting the order data to each machine tool of the
most suitable manufacturing facility.

- 20 53. The article manufacturing facility automatic decision method of claim 51,
comprising the step of:

when actual operation data of machine tool of each manufacturing facility is
received, selecting a process schedule of the manufacturing facility corresponding the
actual operation data, and causing the process schedule to reflect the actual operation data
received.

- 25 54. The article manufacturing facility automatic decision method of claim 51,
comprising the step of:

when difference between actual operation data of each manufacturing facility and

number of steps to be assigned to the process schedule is more than a predetermined value, outputting an alarm indicating delay in delivery time.

55. The article manufacturing facility automatic decision method of claim 51, wherein the article is a standard article of a tool described in a catalog, or patterned custom made article that can be automatically designed from the standard article, or non-patterned custom made article for which the automatic designing is impossible,

the method comprising the step of:

judging whether the manufacturing order data is for the standard article, or patterned custom made article, or non-patterned custom made article;

10 if it is for the standard article, regarding manufacturing facility that has the standard article as the most suitable manufacturing facility on the basis of the storing information of each manufacturing facility.

56. The article manufacturing facility automatic decision method of claim 51, further comprising the step of:

15 when there is no most suitable manufacturing facility that has the standard article, judging from the manufacturing factory decision index whether the manufacturing facility or factory detected can manufacture the standard article indicated by the manufacturing order data for the standard article.

57. The article manufacturing facility automatic decision method of claim 51, further comprising the step of:

when the manufacturing order data is for patterned custom made article or the non-patterned custom made article, judging from the manufacturing factory decision index whether the manufacturing facility or factory detected can manufacture the patterned custom made article or the non-patterned custom made article indicated by the manufacturing order data for the standard article.

58. An automatic decision system comprising a plurality of factories provided in different places located away from each other, and most appropriate manufacturing

scheduler, comprising:

means for determining a manufacturing factory decision index of each factory that includes the information on the status of the capacity, number of each tool, stored material the factory presently possess and the factory load percentage based on the operation rate
5 per designated time of the machine tools;

means for detecting factories that can deliver the commodity within the date of delivery;

means for reading the manufacturing order data and judging from the manufacturing factory decision index whether it is possible for the factory detected to
10 manufacture the product indicated in the manufacturing order data; and

means for determining the detected factory as the most suitable factory and transmitting the manufacturing order data to the most suitable factory if it is judged that the factory detected can manufacture the manufacturing order data,.

59. The article manufacturing facility automatic decision system of claim 8,
15 comprising:

means for generating process schedule of each machine tools of each manufacturing facility, each process schedule corresponding to a name of the manufacturing facility and a name of machine tool and time axis;

means for calculating processing time of each machine tool to obtain the article of
20 the manufacturing order;

means for selecting a process schedule of the most suitable manufacturing facility, and assigning manufacturing order data corresponding to the processing time to each machine tool of the process schedule, and transmitting the order data to each machine tool of the most suitable manufacturing facility.

60. The article manufacturing facility automatic decision system of claim 58,
25 comprising:

means for selecting, when actual operation data of machine tool of each

manufacturing facility is received, a process schedule of the manufacturing facility corresponding the actual operation data, and causing the process schedule to reflect the actual operation data received.

5 61. The article manufacturing facility automatic decision method of claim 58, comprising:

means for outputting an alarm indicating delay in delivery time when difference between actual operation data of each manufacturing facility and number of steps to be assigned to the process schedule is more than a predetermined value.

10 62. A memory medium storing a program for a commodity manufacturing factory automatic decision method, the method comprising:

reading a manufacturing order data comprising the customer's demand for the date of delivery and the ordered number of articles and manufacturing information of the commodity and the like,

15 determining a manufacturing factory decision index of each factory that includes the information on the status of the capacity, number of each tool, stored material the factory presently possess and the factory load percentage based on the operation rate per designated time of the machine tools;

detecting the factory that is located at a distance where the cost for transportation is the lowest by comparing the location of the customer and the locations of each factory;

20 reading the manufacturing order data and judging from the manufacturing factory decision index whether it is possible for the factory detected to manufacture the product indicated in the manufacturing order data; and

if it is judged that the factory detected can manufacture the manufacturing order data, determining the detected factory as the most suitable factory and transmitting the 25 manufacturing order data to the most suitable factory.

63. The system of claim 58, wherein the system compares a location of the customer and a location of each manufacturing facility or factory, and detect a

manufacturing facility or factory having a distance for which a transportation cost is least.

64. A visiting support system, which is a network connecting the server and the client who requests or transfer information of the place of visit or information on visitors such as who, when and on what kind of business the visit was made,

5 wherein the client has operating buttons for the operator to transmit to or collect various data such as the place of visit, state of activities of the operator for the client in accordance with the business hours of the operator of the client; and

by pressing these buttons, an input screen corresponding to the operating button is displayed, and

10 the information (information of the place visited or information of the visitor) inputted on the input screen is transmitted to the server or

accumulated information corresponding to the request of the operating buttons that is pressed is collected from the server and the collected data is displayed on the screen in a designated form, and

15 the server deciphers the type of information transmitted from the client, and if the deciphered result indicates a variety of data, they are stored according to types, and also

if the decipher indicates a collection of the stored information, the stored information will be transmitted to the client according to the stored type.

20 65. The visiting support system of claim 64, wherein

the server stores map information that is divided into areas, and reads out, when an address of a visit place and a map request command are input from the client, a map in the area of the address, and transfer the map data with location of the visit place, and

25 when the map is transferred from the server, the client indicates the location of the place by an identification character while the location of the visit place that is attached to the map data is positioned at the center of the screen.

66. The visiting support system of claim 64, wherein the client displays, an

initial screen that is divided into:

a morning process area including a data acquiring button that starts data acquiring process in which the server send accumulated information, and visit confirmation button that start a process to inform visit status and visit plan of a visitor;

5 a daytime process area including quotation button for starting quotation process in which an article ordered by visit place is estimated;

evening process area including visit result button for starting a process for entering content of business discussions, content of visit at the visit place, and data transfer button for transferring the content of business discussions, content of visit entered.

10 67. The visiting support system of claim 64, wherein

the server produces, when content of business discussions, content of visit are transferred from the client, a numeral in accordance with the contents, adds the numeral to a numeral previously assigned to visit place, memorizes the added numeral in association with the visit place as a point of visit and business discussion for the visit place, and

15 transfers together with an accumulated information when receiving the data acquiring command from the client, and

the client memorizes, when the accumulated information and the point are received, the same, and displays the accumulated information and the point in a certain form in accordance with an operation of visit confirmation button.

20 68. The visiting support system of claim 64, wherein the server memorize the point in association with a code of an employee who visits the visit place.